

Remarks

In view of the above amendments and the following remarks, reconsideration of the rejection and further examination are requested.

Claims 1-9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Hemkumar (US 6,356,871) in view of Olin (US 6,708,220).

Claims 1-9 have been canceled without prejudice or disclaimer to the subject matter contained therein, and new claims 10-16 have been added. It is noted that new claims 10-16 correspond to claims 2-5 and 7-9, respectively, drafted into independent form and including a number of minor editorial revisions thereto.

The above-mentioned rejection is respectfully traversed with regard to the new claims for the following reasons.

Claim 10 is patentable over the combination of Hemkumar and Olin, since claim 10 recites a storage-type data broadcast service system, including, in part, a receiver having a system time clock recoverer for recovering, based on an extracted program clock reference contained in a first transport stream, a system time clock which is a processing reference clock for packet data; a program clock reference correction factor calculator for detecting a transfer rate ratio between a first transfer rate and a second transfer rate based on two contiguous extracted program clock references, and deriving, based on the detected transfer rate ratio, a correction factor for correcting the extracted program clock reference so as to match the second transfer rate; and a program clock reference corrector for correcting the extracted program clock reference based on the derived correction factor, wherein the system time clock recoverer is feedback-controlled to recover the system time clock based on the corrected program clock reference.

Based on the above-mentioned features of the receiver recited in claim 10, the claimed storage-type data broadcast service system is capable of recovering the system time clock even when distribution occurs at, for example, a bit stream transfer rate. The combination of Hemkumar and Olin fails to disclose or suggest the above-discussed features of claim 10 that are capable of achieving this effect.

Regarding Hemkumar, it discloses a decoder 100 which receives an initial program clock reference (PCR) value that is used to load a system time clock (STC) counter 601. The STC counter 601 increments an STC clock. The current value in the counter 601 is then subtracted

from each PCR value that is received by the decoder 100 by a block 602 to determine a time rate of change of the decoder STC values with respect to the received PCR values. If the time rates of change differ, the decoder STC frequency is adjusted so as to achieve synchronization. (See column 12, lines 17-52 and Figure 6).

Based on the above discussion, it is apparent that the decoder 100 of Hemkumar adjusts the STC frequency when a difference between time rates of change between the PCR values and the STC values exist. However, the STC clock is not recovered based on a corrected PCR value. Therefore, it is apparent that Hemkumar fails to disclose or suggest the claimed system time clock recoverer, program clock reference correction factor calculator, and program clock reference corrector as recited in claim 10. As a result, Olin must disclose or suggest these features in order for the combination of Hemkumar and Olin to render claim 10 obvious.

Regarding Olin, it discloses the concept of setting a configurable value as a size of a data set when compression should begin so as to optimize a data transfer rate. (See column 6, lines 18-37) However, it is apparent that Olin fails to disclose or suggest the above-discussed features of claim 10. Therefore, Olin fails to address the deficiencies of Hemkumar. As a result, claim 10 is patentable over the combination of Hemkumar and Olin.

As for claim 14, it is patentable over the combination of Hemkumar and Olin for reasons similar to those set forth above in support of claim 10.

Claim 11 is patentable over the combination of Hemkumar and Olin, since claim 11 recites a storage-type data broadcast service system, including, in part, a receiver having a system time clock recoverer for recovering, based on an extracted program clock reference contained in a first transport stream, a system time clock which is a processing reference clock for packet data; a system time clock/program clock reference rate ratio calculator for deriving, based on the extracted program clock reference and the recovered system time clock, a correction factor for correcting the extracted program clock reference so as to match a second transfer rate; and a program clock reference corrector for correcting the extracted program clock reference based on the correction factor, wherein the system time clock recoverer is feedback-controlled to recover the system time clock based on the corrected program clock reference.

As discussed above, the decoder 100 of Hemkumar adjusts the STC frequency when a difference between time rates of change between the PCR values and the STC values exist. However, the STC clock is not recovered based on a corrected PCR value. Further, Olin is relied

upon as disclosing the concept of setting a configurable value as a size of a data set when compression should begin so as to optimize a data transfer rate. Therefore, it is apparent that the combination of Hemkumar and Olin fails to disclose or suggest the claimed system time clock recoverer, system time clock/program clock reference rate ratio calculator, and program clock reference corrector as recited in claim 11.

As for claim 15, it is patentable over the combination of Hemkumar and Olin for reasons similar to those set forth above in support of claim 11.

Claim 12 is patentable over the combination of Hemkumar and Olin, since claim 12 recites a storage-type data broadcast service system, including, in part, a receiver having a program clock reference extractor for extracting a program clock reference contained in a first transport stream; a program clock reference specifier for causing the program clock reference extractor to extract, as a standard program clock reference, the program clock reference contained in the first transport stream and contained in packet data transferred at a first transfer rate; and a system time clock recoverer for recovering, based on the extracted standard program clock reference, a system time clock which is a processing reference clock for the packet data.

As discussed above, the decoder 100 of Hemkumar adjusts the STC frequency when a difference between time rates of change between the PCR values and the STC values exist. However, the STC clock is not recovered based on a PCR value extracted from packet data. Further, Olin is relied upon as disclosing the concept of setting a configurable value as a size of a data set when compression should begin so as to optimize a data transfer rate. Therefore, it is apparent that the combination of Hemkumar and Olin fails to disclose or suggest the claimed system time clock recoverer, a program clock reference specifier, and a system time clock recoverer recited in claim 12.

As for claim 16, it is patentable over the combination of Hemkumar and Olin for reasons similar to those set forth above in support of claim 12.

Claim 13 is patentable over the combination of Hemkumar and Olin, since claim 13 recites a storage-type data broadcast service system, including, in part, a receiver having a system time clock recoverer for recovering, based on an extracted program clock reference contained in a first transport stream, a system time clock which is a processing reference clock for packet data; a program clock reference correction factor generator for extracting the transfer rate ratio from the first transport stream, and deriving, based on the extracted transfer rate ratio, a

correction factor for correcting the extracted program clock reference so as to match the second transfer rate; and a program clock reference corrector for correcting the extracted program clock reference based on the correction factor, wherein the system time clock recoverer is feedback-controlled to recover the system time clock based on the corrected program clock reference.

As discussed above, the decoder 100 of Hemkumar adjusts the STC frequency when a difference between time rates of change between the PCR values and the STC values exist. However, the STC clock is not recovered based on a corrected PCR value. Further, Olin is relied upon as disclosing the concept of setting a configurable value as a size of a data set when compression should begin so as to optimize a data transfer rate. Therefore, it is apparent that the combination of Hemkumar and Olin fails to disclose or suggest the claimed system time clock recoverer, a program clock reference correction factor generator, and program clock reference corrector recited in claim 13.

Because of the above-mentioned distinctions, it is believed clear that claims 10-16 are patentable over the references relied upon in the rejection. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 10-16. Therefore, it is submitted that claims 10-16.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

Yohei KAWABATA et al.

By:



David M. Ovedovitz
Registration No. 45,336
Attorney for Applicants

DMO/jmj
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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